

**REMARKS**

This is a full and timely response to the outstanding non-final Office Action mailed September 2, 2008. In the Office Action claims 1 4, 11, 12, 17, 22, 24, 25, 32, 33, 37, 39-41, 43-49 and 50-58 have been preliminarily rejected as being allegedly unpatentable under 35 USC §103(a). Claims 1 4, 11, 16, 17, 22, 24, 25, 32, 33, and 43-50 remain pending for consideration and allowance is respectfully requested.

Prior to addressing each claim individually, the Applicant respectfully requests that the Examiner review the following.

It needs to be understood that Whitehurst is the defective prior art discussed by the presently pending application. Prior technologies, such as that discussed by Whitehurst, are disclosed in the Background of the Invention section of the presently pending application. As an example, paragraphs [0007], [0008], and [0009] of the presently pending application read as follows:

[0007] A second type of computer-based training relies on a network such as the Internet to distribute course content, generally from a server to a plurality of individual network computers. More specifically, the course content is presented using a mark-up language such as HTML (hypertext mark-up language via network computers using some type of browser to display the content. This techniques has the advantage of potentially instantaneous distribution to students and does away with the need for local storage media to be distributed. However, this technique is still essentially a static presentation of pre-conceived slides of information and therefore continues to suffer from essentially the same drawbacks discussed above with respect to course development, manipulation, updating and individualization. These problems may be exacerbated by the need to implement an HTML version of the course content must be compatible with a variety of web browsers and operating systems. Moreover, distributing course content via the Internet may require users to implement certain plug-ins or downloads from the server and, depending on the student and the student's computer, may therefore hamper or completely deter the student from utilizing this type of computer-based training. Finally, depending on the connection capabilities of the student's computer, it may be difficult or impossible for the student to receive the course content due to, for example, bandwidth limitations that restrict the student from effectively receiving video, graphics, animated content, etc.

[0008] A third type of computer-based training also relies on a distributed network such as the Internet and uses XML (extensible mark-up language) in developing the course content. XML is a language that marks-up or "tags" the course content using user-defined designations for different types and sections of content, so that the tagged items may be recognized and acted upon during future processing. For example, section titles might be designated as such for the purpose of automatically generating a table of contents upon completion of the course design. Questions and answers within a course may be tagged separately so that an instructor version can be generated containing the answers, where the student version leaves the answers blank. This technique greatly increases the ease with which a course is updated since similar concepts can be similarly tagged throughout the document and, therefore, identified for alteration or deletion during the updating process. Additionally, such XML documents are typically platform, language and vendor independent, which makes their distribution over the Internet less complicated. Moreover, inasmuch as XML permits the separation of content from presentation, it allows authors to create documents using traditional word processing or spreadsheet applications that can then be used to directly generate Internet-ready documents.

[0009] However, the use of XML in computer-based training has unique difficulties and does not solve all of the problems mentioned above. For example, XML requires that the developer create all of the different types of tags (categories) to be used and requires that the contents of these categories be defined by various rules. Ideally, these different definitions, categories and rules should be parsed to ensure their consistency. Even if these tasks are successfully completed, the fact remains that the resulting course subject matter is simply a very large, static (albeit well-defined) document that must be constructed, maintained and delivered in its entirety. That is, the document is published such that its content and structure, and the relationships therebetween, are unchanged from delivery to delivery. Even if a viewer chooses to manipulate the data in the manner described above, e.g., a viewer chooses to see questions with or without the answers, the viewer is essentially simply choosing not to view a particular type of content within the document.

Whitehurst is the prior art that is being discussed in the Background of the Invention of the presently pending patent application. As an example, Whitehurst uses XML computer-based training. Paragraph [0046] of Whitehurst reads:

[0046] As the learning program is capable of being accessed over the Internet, the program may be given a browser-based interface 40 to allow such interaction. Further, browser technology is well understood and the protocol for establishing browsers and interacting therein is well-known to those skilled in the art. This allows the programming and development content to be made in such Internet compatible languages such as HTML, Extensible Mark-up Language ("XML"), and other mark-up languages. Further, the contents stored will be in XML compatible format. Further still, it is intended that the program be compliant with international standards for electronic training materials. In

one specific embodiment, it is intended that the content utilized within the learning program be stored on the server for access and presentation to the individual learners and to learning groups comprised of such learners. This will be discussed in greater detail below.

There are many other examples of this, however, the abovementioned should suffice.

The following individual remarks regarding specific claims further elaborates upon the abovementioned with regard to the claims of the presently pending application.

### **CLAIM REJECTIONS UNDER 35 U.S.C. §103**

In the Office Action, claims 1-4, 11, 12, 16, 17, 22, 24, 25, 32, 33, 37, 39-41, and 43-55 have been preliminarily rejected as allegedly being unpatentable over prior art cited. It is well established at law that, for a proper rejection of a claim under 35 U.S.C. §103 as being obvious based upon a combination of references, the cited combination of references must disclose, teach, or suggest, either implicitly or explicitly, all elements/features/steps of the claim at issue. See, *e.g.*, *In Re Dow Chemical*, 5 U.S.P.Q.2d 1529, 1531 (Fed. Cir. 1988), and *In re Keller*, 208 U.S.P.Q. 871, 881 (C.C.P.A. 1981).

#### **A. Claim 1**

Claim 1 has been preliminarily rejected under 35 USC §103(a) as allegedly being unpatentable over Whitehurt et al (US 2002/0142278) (hereafter, “Whitehurt”), in view of Pellegrino et al. (US 6,149,441) (hereafter, “Pellegrino”). Amended independent claim 1 reads:

1. A system for providing an e-learning course, comprising:

a) **an authoring tool operable to decompose course content into individual reusable learning objects, wherein aspects of the course associated with an ultimate presentation of the course is separately and semantically described as an object, wherein the object is a software construct used to bundle together code, and wherein the authoring tool is also operable to create at least one assessment item for determining the learning objects containing learning objectives familiar to a student;**

b) a database for storing the plurality of reusable learning objects and a profile of at least one student that defines a plurality of course requirements of the student, **wherein each reusable learning object of the plurality of learning objects is separately and individually stored within the database;** and

c) a dynamic rendering engine adapted and configured to create an individualized course for the student by assembling a subset of the learning objects in response to the assessment item designed to evaluate whether the student has mastered a learning objective, **wherein the learning objects are dynamically custom assembled and rendered immediately prior to delivery.**

**(Emphasis Added)**

Independent claim 1 is allowable for at least the reason that the combination of Whitehurst in view of Pellegrino does not disclose, teach, or suggest the features that are highlighted in claim 1 above. More specifically, as emphasized above, Whitehurst in view of Pellegrino does not disclose, teach or suggest any of the following:

- an authoring tool operable to decompose course content into individual reusable learning objects, wherein aspects of the course associated with an ultimate presentation of the course is separately and semantically described as an object, wherein the object is a software construct used to bundle together code, and wherein the authoring tool is also operable to create at least one assessment item for determining the learning objects containing learning objectives familiar to a student;
- reusable learning objects that are separately and individually stored within a database; and
- learning objects that are dynamically custom assembled and rendered immediately prior to delivery.

Regarding the authoring tool, neither Whitehurst, not Pellegrino disclose, teach, or suggest an authoring tool that is operable to decompose course content into individual reusable learning objects, wherein aspects of the course associated with an ultimate presentation of the course is separately and semantically described as an object.

Pellegrino clearly does not disclose, teach, or suggest the use of object oriented code in the creating, maintaining, and delivering of course content, and especially not in use of an authoring tool operable as described above. The cited portion of Pellegrino reads:

It will thus be seen the invention efficiently obtains the objects set forth above. As understood by one of ordinary skill, programming is an art that allows many variations to achieve a given functionality. Programming approaches can vary. Sequences of processing steps, or the broad organization thereof, in a given program are only exemplary, and there can be variations in those steps that result in the same functionality of the overall system without departing from the spirit and scope of the invention. **For example, known in the art are traditional structural programming and the more recent object-oriented approach, and those two approaches can result in a different organization of functional modules and data.** Accordingly, it is intended that all matter contained in the above description and shown in the accompanying drawings be interpreted as illustrative and not in a limiting sense. It is considered that one of ordinary skill in the art, based on the disclosure herein, can implement the disclosed invention using techniques known to those of ordinary skill, and that those techniques can vary without departing from the spirit and scope of the invention.

The Applicant respectfully submits that merely since Pellegrino makes a general statement regarding the possibility of using an **object-oriented approach**, by combining that taught by Pellegrino and Whitehurst, one having ordinary skill in the art clearly would not know how to implement the presently pending technology claimed in claim 1. The combination of Pellegrino and Whitehurst, would not disclose, teach, or suggest the providing of an object-oriented approach to creating, maintaining, and delivering course content. Just mentioning that someone could use an object-oriented approach in a general statement does not disclose, teach, or suggest the limitations of the presently pending

claims, and especially, the brief mentioning of object-oriented code in Pellegrino does not disclose, teach, or suggest an authoring tool operable to decompose course content into individual reusable learning objects, wherein aspects of the course associated with an ultimate presentation of the course is separately and semantically described as an object, wherein the object is a software construct used to bundle together code.

Regarding the limitation of reusable learning objects that are separately and individually stored within a database, the present invention authors virtually every component of a course, including graphical and textual presentation, learning objectives, subject matter content, assessment items and system capabilities, as objects to be individually stored. The learning objects are authored and then individually stored in a database, and ARE NOT, prior to delivery to a student, “hard-wired” together in published document form.

An example of this is provided, for example, by paragraph [0044]] of the presently pending application, which reads:

[0044] It should be noted that, at a time when the student clicks on button 335 to advance from page 300 to page 400, page 400 does not yet physically exist prior to the input from the student to the e-learning system 100 for requesting course content, e.g., the click to advance from page 300 to page 400. The content that will ultimately comprise page 400, prior to the click by the student, merely exists as a collection of objects representing the various components 305 and 405-425, as explained above. These objects are dynamically assembled and rendered "on-the-fly" by the dynamic delivery tool 135 as a course page when the student clicks on button 335. This rendering process is designed to occur in approximately 3 seconds or less.

Neither Whitehurst, not Pellegrino disclose, teach or suggest this limitation.

Regarding learning objects that are dynamically custom assembled and rendered immediately prior to delivery, neither Whitehurst, nor Pellegrino disclose, teach, or suggest this limitation of amended independent claim 1. Consequently, the combination

of Whitehurst in view of Pellegrino does not render claim 1 obvious, and the rejection should be withdrawn.

**B. Claims 2-4, 11, and 16**

Since dependent claims 2-4, 11, and 16 depend from independent claim 1, thereby containing all of the limitations of the independent claim, and since the independent claim should be allowed, the pending dependent claims should be allowed for at least this reason. In re Fine, 5 U.S.P.Q. 2d 1596, 1608 (Fed. Cir. 1988).

**C. Claim 17**

Claim 17 has been preliminarily rejected under 35 USC §103(a) as allegedly being unpatentable over Whitehurst et al (US 2002/0142278) (hereafter, “Whitehurst”), in view of Pellegrino et al. (US 6,149,441) (hereafter, “Pellegrino”). Amended independent claim 17 reads:

17. An e-learning tool comprising:
  - a) **an authoring tool operable to decompose course content into individual reusable learning objects, wherein aspects of the course associated with an ultimate presentation of the course is separately and semantically described as an object, wherein the object is a software construct used to bundle together code, and wherein the authoring tool is also operable to create at least one assessment item for determining the learning objects containing learning objectives familiar to a student;**
  - b) **a dynamic delivery tool operable to dynamically assemble a course page of instruction from the objects to custom make and deliver the course page in real time to meet specific needs of a student, wherein the course page is dynamically assembled by the e-learning tool in response to determining a characteristic of the student by evaluating the assessment item;** and
  - c) a learning management system containing a student profile.

**(Emphasis Added)**

Independent claim 17 is allowable for at least the reason that the combination of Whitehurst in view of Pellegrino does not disclose, teach, or suggest the features that are highlighted in claim 1 above. More specifically, as emphasized above, Whitehurst in view of Pellegrino does not disclose, teach or suggest any of the following:

- an authoring tool operable to decompose course content into individual reusable learning objects, wherein aspects of the course associated with an ultimate presentation of the course is separately and semantically described as an object, wherein the object is a software construct used to bundle together code, and wherein the authoring tool is also operable to create at least one assessment item for determining the learning objects containing learning objectives familiar to a student; and
- a dynamic delivery tool operable to dynamically assemble a course page of instruction from the objects to custom make and deliver the course page in real time to meet specific needs of a student, wherein the course page is dynamically assembled by the e-learning tool in response to determining a characteristic of the student by evaluating the assessment item

Regarding the authoring tool, neither Whitehurst, nor Pellegrino disclose, teach, or suggest an authoring tool that is operable to decompose course content into individual reusable learning objects, wherein aspects of the course associated with an ultimate presentation of the course is separately and semantically described as an object.

Pellegrino clearly does not disclose, teach, or suggest the use of object oriented code in the creating, maintaining, and delivering of course content, and especially not in use of an authoring tool operable as described above. The cited portion of Pellegrino reads:

It will thus be seen the invention efficiently obtains the objects set forth above. As understood by one of ordinary skill, programming is an art that allows many variations to achieve a given functionality. Programming approaches can vary. Sequences of processing steps, or the broad organization thereof, in a given program are only exemplary, and there can be variations in those steps that result in the same functionality



of the overall system without departing from the spirit and scope of the invention. **For example, known in the art are traditional structural programming and the more recent object-oriented approach, and those two approaches can result in a different organization of functional modules and data.** Accordingly, it is intended that all matter contained in the above description and shown in the accompanying drawings be interpreted as illustrative and not in a limiting sense. It is considered that one of ordinary skill in the art, based on the disclosure herein, can implement the disclosed invention using techniques known to those of ordinary skill, and that those techniques can vary without departing from the spirit and scope of the invention.

The Applicant respectfully submits that merely since Pellegrino makes a general statement regarding the possibility of using an **object-oriented approach**, by combining that taught by Pellegrino and Whitehurst, one having ordinary skill in the art clearly would not know how to implement the presently pending technology claimed in claim 1. The combination of Pellegrino and Whitehurst, would not disclose, teach, or suggest the providing of an object-oriented approach to creating, maintaining, and delivering course content. Just mentioning that someone could use an object-oriented approach in a general statement does not disclose, teach, or suggest the limitations of the presently pending claims, and especially, the brief mentioning of object-oriented code in Pellegrino does not disclose, teach, or suggest an authoring tool operable to decompose course content into individual reusable learning objects, wherein aspects of the course associated with an ultimate presentation of the course is separately and semantically described as an object, wherein the object is a software construct used to bundle together code .

Regarding the dynamic delivery tool limitations, neither Whitehurst, nor Pellegrino disclose, teach, or suggest this limitation of amended independent claim 17. Consequently, the combination of Whitehurst in view of Pellegrino does not render claim 17 obvious, and the rejection should be withdrawn.

**D. Claims 22, 24, and 25**

Since dependent claims 22, 24, and 25 depend from independent claim 17, thereby containing all of the limitations of the independent claim, and since the independent claim should be allowed, the pending dependent claims should be allowed for at least this reason. In re Fine, 5 U.S.P.Q. 2d 1596, 1608 (Fed. Cir. 1988).

**E. Claim 32**

Claim 32 has been preliminarily rejected under 35 USC §103(a) as allegedly being unpatentable over Cook (US 6,201,948) (hereafter, “Cook”) in view of DeNicola et al (US 6,288,753) (hereafter, “DeNicola”), and further in view of Pellegrino. Amended independent claim 32 reads:

32. A system for formulating and distributing an e-learning course, comprising:

a) a first software application that **decomposes course content into individual reusable learning objects, and wherein aspects of the course associated with an ultimate presentation of the course is separately and semantically described as an object, wherein the object is a software construct used to bundle together code,** and wherein the first software application receives e-learning content and categorizes the content into classes of discrete elements, each discrete element representing a separate characteristic of the e-learning course and its presentation, the classes of discrete elements having pre-defined behaviors and relationships therebetween, wherein each discrete element is represented by at least one of the learning objects;

b) a second software application that receives information regarding a student's requirements for the course; and

c) a third software application that correlates the received information with the classes of discrete elements so as to automatically and dynamically assemble and render the discrete elements as an e-learning course customized to the individual requirements of the student.

**(Emphasis Added)**

Independent claim 32 is allowable for at least the reason that the combination of Cook, DeNicola, and Pellegrino does not disclose, teach, or suggest the features that are highlighted in claim 32 above. More specifically, as emphasized above, none of the references disclose, teach or suggest a first software application that decomposes course content into individual reusable learning objects, and wherein aspects of the course associated with an ultimate presentation of the course is separately and semantically described as an object, wherein the object is a software construct used to bundle together code.

Pellegrino clearly does not disclose, teach, or suggest the use of object oriented code in the creating, maintaining, and delivering of course content, and especially not in use of an authoring tool operable as described above. The cited portion of Pellegrino reads:

It will thus be seen the invention efficiently obtains the objects set forth above. As understood by one of ordinary skill, programming is an art that allows many variations to achieve a given functionality. Programming approaches can vary. Sequences of processing steps, or the broad organization thereof, in a given program are only exemplary, and there can be variations in those steps that result in the same functionality of the overall system without departing from the spirit and scope of the invention. **For example, known in the art are traditional structural programming and the more recent object-oriented approach, and those two approaches can result in a different organization of functional modules and data.** Accordingly, it is intended that all matter contained in the above description and shown in the accompanying drawings be interpreted as illustrative and not in a limiting sense. It is considered that one of ordinary skill in the art, based on the disclosure herein, can implement the disclosed invention using techniques known to those of ordinary skill, and that those techniques can vary without departing from the spirit and scope of the invention.

The Applicant respectfully submits that merely since Pellegrino makes a general statement regarding the possibility of using an **object-oriented approach**, by combining that taught by Pellegrino and the other references cited, one having ordinary skill in the

art clearly would not know how to implement the presently pending technology claimed in claim 32. The combination of Pellegrino and the other references, would not disclose, teach, or suggest the providing of an object-oriented approach to creating, maintaining, and delivering course content. Just mentioning that someone could use an object-oriented approach in a general statement does not disclose, teach, or suggest the limitations of the presently pending claims, and especially, the brief mentioning of object-oriented code in Pellegrino does not disclose, teach, or suggest a first software application that decomposes course content into individual reusable learning objects, and wherein aspects of the course associated with an ultimate presentation of the course is separately and semantically described as an object, wherein the object is a software construct used to bundle together code.

**F. Claim 33**

Since dependent claim 33 depends from independent claim 32, thereby containing all of the limitations of the independent claim, and since the independent claim should be allowed, the pending dependent claim should be allowed for at least this reason. In re Fine, 5 U.S.P.Q. 2d 1596, 1608 (Fed. Cir. 1988).

**G. Claim 43**

Claim 43 has been preliminarily rejected under 35 USC §103(a) as allegedly being unpatentable over Cook (US 6,201,948) (hereafter, “Cook”) in view of DeNicola et al (US 6,288,753) (hereafter, “DeNicola”), and further in view of Pellegrino. Amended independent claim 43 reads:

43. An article of manufacture, which comprises a computer readable medium having stored thereon instructions for carrying out a method for creating and delivering an e-learning course, the method comprising:

- a) **decomposing course content into individual reusable learning objects by a first code segment, and wherein aspects of the course associated with an ultimate presentation of the course is separately and semantically described as an object, and wherein the object is a software construct used to bundle together code;**
- b) determining a subset of the learning objects for assembly into the course immediately prior to distribution to a user based on an assessment item designed to evaluate whether the student has mastered a learning objective by a second code segment; and
- c) dynamically delivering the subset of learning objects to the user by a third code segment.

**(Emphasis Added)**

Amended claim 43 is allowable for at least the same reason as claim 32 and reference may be made to remarks for amended claim 32 for allowance of amended claim 43.

**H. Claims 44-46**

Since dependent claims 44-46 depend from independent claim 43, thereby containing all of the limitations of the independent claim, and since the independent claim should be allowed, the pending dependent claims should be allowed for at least this reason. In re Fine, 5 U.S.P.Q. 2d 1596, 1608 (Fed. Cir. 1988).

**I. Claim 47**

Amended independent claim 47 reads as follows:

47. An e-learning development and distribution tool for providing course content, comprising:

a) **means for decomposing course content into individual reusable learning objects, wherein aspects of the course associated with an ultimate presentation of the course is separately and semantically described as an object, wherein the object is a software construct used to bundle together code;**

b) means for accumulating and storing a plurality of reusable learning objects, wherein each learning object embodies one aspect of presenting, accessing or explaining the course content, and wherein an object is a software construct used to bundle together code; and

c) means for assembling and delivering at least one of the reusable learning objects to at least one student in response to an input from the student in approximately real-time, such that the student receives an individualized version of the course content, wherein the learning objects are dynamically assembled and rendered immediately prior to delivery.

Amended independent claim 47 is allowable over the prior art referenced for similar reasons to other claims discussed herein. Allowance of claim 47 is respectfully requested.

**J. Claims 48-50**

Since dependent claims 48-50 depend from independent claim 47, thereby containing all of the limitations of the independent claim, and since the independent claim should be allowed, the pending dependent claims should be allowed for at least this reason. In re Fine, 5 U.S.P.Q. 2d 1596, 1608 (Fed. Cir. 1988).

**CONCLUSION**

In light of the foregoing and for at least the reasons set forth above, the Applicant respectfully requests favorable reconsideration and allowance of the present application and the presently pending claims. If in the opinion of the Examiner, a telephonic conference would expedite the examination of this matter, the Examiner is invited to call the undersigned attorney at (603) 627-8134.

Respectfully submitted,

**SHEEHAN, PHINNEY, BASS + GREEN, P.A.**

A handwritten signature in black ink, appearing to read "Peter Nieves", is written over a horizontal line.

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